

# Chapter 1 Purpose and Need

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## 1.1 PROPOSED ACTION

The Forest Service proposes to revise the Forest Plans (Land and Resource Management Plans) of the Chippewa and Superior National Forests (NF) that were approved in 1986. In conjunction with Forest Service Manuals and Handbooks, revised Forest Plans would establish direction for managing natural resources for the next 10 to 15 years on National Forest System (NFS) land.

The two National Forests are in northern Minnesota and manage a total of 2,838,131 acres (666,522 acres on the Chippewa National Forest and 2,172,502 acres on the Superior National Forest) (see Map PAN-1).

*The Notice of Intent to Prepare an Environmental Impact Statement for Revision of the Land and Resource Management Plans for the Chippewa and*

*Superior National Forests* (1997) proposed changes to the 1986 Forest Plans. The *Notice of Intent* identified the following focal areas for revising the Forest Plans:

- Establishing a foundation for managing ecosystems
- Establishing management areas
- Addressing how to conserve biological diversity
- Meeting the social and economic needs of people
- Identifying tools or techniques to implement the revised Forest Plans
- Establishing monitoring and evaluating procedures that will reflect an ecosystem-based approach to forest management

## 1.2 DECISIONS TO BE MADE

Forest plans make six key decisions for managing a national forest on a landscape scale in the long term. While no project-level decision are considered during the revision process, the following is decided (36 CFR 219, 1982 regulations):

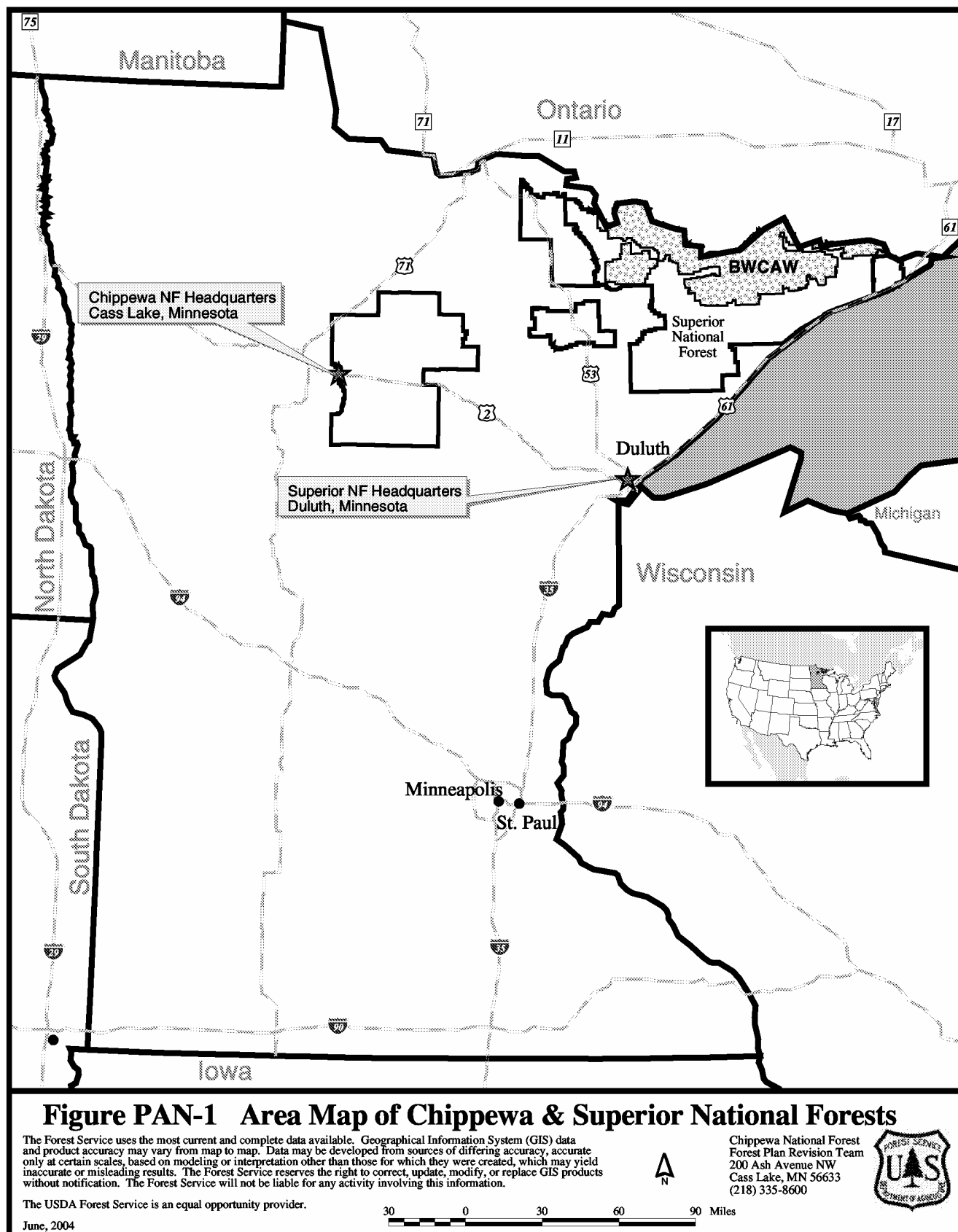
1. Forest-wide multiple use goals and objectives
2. Forest-wide management requirements for protecting resources
3. Management area direction
4. Land suited and not suited for timber management
5. Monitoring and evaluating requirements
6. Recommendations to Congress, such as wilderness study area designations

The 1986 Forest Plans may be modified to address the needs described in the following sections. Revision may also affirm some of the management direction in the 1986 Forest Plans. In 1986, the

management direction in the Forest Plans was analyzed and disclosed in the Records of Decision and Final EISs for the 1986 Forest Plans.

The revised Forest Plans will include the amendments made to the 1986 Forest Plans. The 1986 Forest Plans will not be in effect after the Regional Forester signs the records of decision adopting the revised Forest Plans.

Management direction for eligible wild, scenic, and recreational rivers on the Chippewa and Superior NFs will not be modified. Management direction developed during the 1986 planning process would protect the free flow, outstanding remarkable values, and classification of the seven eligible rivers on both Forests.



On the Superior NF, management direction for the Boundary Waters Canoe Area Wilderness will also not be modified. In 1993, this management direction was analyzed and disclosed in the Final EIS and Record of Decision for the BWCA Wilderness Management Plan and Implementation Schedule (Amendment 3 to the 1986 Forest Plan).

The format and some minor editorial changes may be made to eligible wild, scenic, and recreational rivers and BWCAW direction.

The effects of management-ignited prescribed burning to reduce the risk of wildland fire exiting the Wilderness was analyzed and disclosed in the Boundary Waters Canoe Area Wilderness Fuel Treatment Record of Decision and Final EIS.

## 1.2.1 Management Direction Established in Forest Plans

Forest plans establish management direction for national forests. Management direction is presented in the following ways:

- Goals and desired conditions are broad statements that describe the situation that the Forest Service will strive to achieve. They are generally timeless and not measurable. Goals and desired conditions describe the ends to be achieved, rather than the means of doing so. They are a narrative description of the state of the land and resources expected when objectives and their associated standards and guides are fully achieved. Goals are broad statements of the Forest's overall purpose, while desired conditions describe what the Forest should look like in the future.
- Objectives are measurable steps taken within a specified timeframe to move towards a desired condition. Objectives are generally achieved by implementing a site-level project or activity. However, objectives are not 'targets'. Targets for outputs are dependent upon

budgets and may or may not reflect forest plan emphasis areas.

- Standards are required limits to activities. These limitations help the Forest to reach the desired conditions and objectives. Standards also ensure compliance with laws, regulations, executive orders, and policy direction. Deviations from standards must be analyzed and documented in forest plan amendments.
- Guidelines are preferable limits to management actions that may be followed to achieve desired conditions. Guidelines are generally expected to be carried out. They help the Forest to reach the desired conditions and objectives in a way that permits operational flexibility to respond to variations over time. Deviations from guidelines must be analyzed during project-level analysis and documented in a project decision document, but these deviations do not require a forest plan amendment.
- Appropriate Land Uses – Land within a national forest either is or is not appropriate for specific uses. Some of these uses include transportation systems, timber harvest, developed recreation, mineral development, and special designations such as wilderness or research natural areas.
- Monitoring Strategy – Forest plans must contain a practical, effective, and efficient monitoring strategy to:
  - Evaluate whether management activities are designed and carried out in compliance with forest plan direction
  - Determine whether management is effective in meeting the forest plan desired conditions and objectives
  - Evaluate whether planning assumptions and predictions were valid and appropriate
  - Provide the basis for modifying management to better meet desired conditions and objectives

## 1.2.2 Responsible Official

The Regional Forester is the responsible official for the analysis and decisions for Forest Plan Revision. Conducting analysis, developing alternatives, and preparing the Environmental Impact Statement (EIS) were done at the local Forest level under the direction of the Forest Supervisors of the Chippewa and Superior NFs.

Based on the analysis in the Draft EIS, public comments, and the analysis in the Final EIS, the

Regional Forester will select an alternative to become the revised Forest Plans. The Regional Forester will document his rationale for the selection in two Records of Decision (one for each Forest) accompanying the Final EIS. The alternative selected will include the six key forest plan decisions.

## 1.3 PURPOSE AND NEED FOR CHANGE

In the past 16 years, the Chippewa and Superior NFs have successfully implemented site-specific projects with the management direction in the 1986 Forest Plans, and resources are in good condition. However, there is concern that continuing to follow the management direction in the 1986 Forest Plans may not allow the two Forests to reach their desired conditions and could potentially result in adverse impacts in the long run. Therefore, it is time for a 'course correction' in management direction.

The purpose of this proposed action is to have revised Forest Plans that guide all natural resource management activities on the Chippewa and Superior NFs. Revision also seeks to create Forest Plans that:

- Meet the objectives of federal law and regulations
- Respond to the public's needs and desires
- Manage ecosystems to provide for long-term sustainability

After more than two years of internal study and consultation with the public, other agencies, and tribal governments, the Supervisors of both Forests identified major changes since the Forest Plans were published in 1986. These changes include different resource conditions on the Forests, changed public demands, new information about ecosystems, new management approaches, and shifts in Forest Service

policy at a national level. As a result, there is a need to revise the 1986 Forest Plans to address these changes.

### 1.3.1 Federal Planning Regulations

The Forest Plans were approved in June 1986 and have since been amended. As of March 2003, there are 31 amendments to the Chippewa Forest Plan and 10 amendments to the Superior Forest Plan. The National Forest Management Act requires the Forest Service to revise forest plans every 15 years.

### 1.3.2 Changed Conditions and New Information

Public demands for forest products and services have changed since 1986. The public's interest in how national forests are managed has also increased. There is new information about the Chippewa and Superior NFs and new forest management approaches. All of this new information will guide

the needed changes in management direction.

For detail on changed conditions, see the *Analysis of the Management Situation* on file in the planning record at the Superior National Forest Supervisor's Office. Appendix A of the Forest Plans summarizes the *Analysis of the Management Situation*.

## Public Demands

There is a need to address the change in public demands for the Chippewa and Superior NFs.

Demand has increased for forest commodities, such as pulpwood, and for non-consumptive services, such as recreation. For instance, the overall demand for timber has gone up, including an increased demand for the amount and variety of species harvested. At the same time, there is an increasing demand for recreational opportunities for all-terrain motor vehicles and for forest settings that support dispersed, non-motorized uses.

Public recognition of the importance of ecological integrity has also increased. This has led to an increased demand for a management approach that blends the public's needs and interests with the biological and physical capabilities and requirements of the environment. Greater cooperative stewardship with other land managers is key to meeting these demands because of intermixed ownership on the Chippewa and Superior NFs.

This Final EIS analyzes the ability of the two National Forests to supply goods and services in response to society's demands. This analysis is important because the Chippewa and Superior NFs contribute to resource integrity and social and economic sustainability of the area.

## Land Conditions

Forest monitoring has highlighted changed conditions since the 1986 Forest Plans were approved. Insect infestation (such as spruce budworm), fuel build up, drought, blowdown, and flooding have changed conditions on the Forests in ways not anticipated in the 1986 Forest Plans. In

some areas, we may be able to improve the management direction in the 1986 Forest Plans by updating the management direction to reflect the changed land conditions. How the Chippewa and Superior NFs interact with partners will also determine the success of responding to the changes in the land and resource conditions.

## New Information and Management Approaches

New scientific information has been published since 1986, including research, assessments, and inventories issued by the Forest Service, the Minnesota Department of Natural Resources (DNR), universities, and other research organizations. There is a need to evaluate if and how to use new information and management techniques to better manage the Chippewa and Superior NFs.

The landscape ecosystem classification from the Terrestrial Ecological Unit Inventory (a national inventory) is new information. The Forest Plan revision process used this information (see Chapters 2 and 3 for more on landscape ecosystems).

The concept of the range of natural variability (RNV) has been recently advanced as a means of analyzing landscape conditions and their ability to maintain long-term ecological sustainability. RNV refers to the expected variation in physical and biological conditions caused by natural variations in climate and disturbances, such as wildfire and windstorms. It is derived from an ecological history of a landscape and is estimated from the rate and extent of change of selected ecosystem variables. It does not imply a particular condition, but rather a distribution of conditions (USDA Forest Service Committee of Scientists 1999).

The concept of RNV as a characterization of reference conditions is of primary importance to maintaining the biological diversity of a particular landscape. This is based upon the key assumption that the ecological conditions most likely to conserve native species are those under which they evolved (Hunter et al. 1988, USDA Forest Service Committee of Scientists 1999).

Because the National Forests in Minnesota are one of many land managers on the landscape, the Chippewa and Superior NFs coordinated with the Minnesota Forest Resource Council (MFRC) in an effort to define selected RNV variables for forested regions of northern Minnesota. In November of 1998, the MFRC commissioned an expert panel to set ecological thresholds for defining the range of natural variation for forest communities associated with the two national forests. In addition to defining these thresholds, the panel also established the appropriate timeframe and scale for characterizing RNV and identifying the major forest communities for which RNV characterization was needed. The final documentation of these efforts is contained in two reports authored by Lee Frelich of the University of Minnesota (Frelich 1999, Frelich 2000). The MFRC is utilizing this RNV information in completing the landscape assessments for portions of northern Minnesota. The Chippewa and Superior NFs used the information derived from these RNV reports to aid in:

- Developing forest vegetation composition and age objectives for alternative forest management strategies on national forest lands (see Chapter 2, Alternatives of the Final EIS);
- Analyzing and comparing alternatives, in terms of how each alternative contributes to RNV at the landscape scale (see Chapter 3, Affected Environment and Environmental Consequences of the Final EIS); and
- Describing desired future conditions (see Chapter 3, Management Area Direction of the Forest Plan).

A more detailed discussion of RNV and how it is used in the planning process can be found in Chapters 2 and 3 and in Appendix B of the EIS.

The MFRC has also developed management approaches that include landscape planning and voluntary state-wide forest management guidelines for soil, wildlife, riparian, visual quality, and cultural resources. This approach includes the use of landscape ecosystem information in forest planning. Since 1986, the Forests have successfully completed site-level projects consistent with the 1986 Forest Plan. However, new information from monitoring and evaluation show that it is not always possible to

### **Minnesota Sustainable Forest Resources Act and Minnesota Forest Resources Council**

In 1995, the Minnesota Legislature created the Sustainable Forest Resources Act to ensure the sustainable management, use, and protection of the State's forest resources to achieve the State's economic, environmental, and social goals. It incorporates programs on forest ecosystems, forest management, and human interactions with forests over both small and large areas. The Act encourages collaboration, education, research, monitoring, and information management to emphasize the learning and coordination that is needed to sustain forests.

The Sustainable Forest Resources Act also established the Minnesota Forest Resources Council. The Council helps develop and implement initiatives from the Sustainable Forest Resources Act. The Council also advises the governor and federal, state, and local governments on sustainable forest resource policies and practices.

Members of the Council represent the following interests and organizations:

- Commercial logging contractors
- Conservation organizations
- County land departments
- Environmental interests
- Forest products industry
- Game species management
- Labor organizations
- Minnesota Indian Affairs Council
- Minnesota Department of Natural Resources
- Non-industrial private forest landowners
- Research and higher education
- Resort and tourism industry
- Secondary wood products manufacturers
- USDA Forest Service

implement management direction in the 1986 Forest Plans, such as standards and guidelines, while at the same time providing the quantities of forest products and uses projected in the 1986 Plans, such as timber and recreational opportunities. Therefore, it is a good time for a course correction in management direction.

Forest Plan revision has taken advantage of new

information about the condition of ecosystems on a broad-scale that was recently developed by the Great Lakes Ecological Assessment. The Great Lakes Ecological Assessment is an interagency effort to collect and consolidate new and existing environmental, biological, and socioeconomic information in the northern Lake States. This project is one part of adaptive planning, management, monitoring, and research that supports ecosystem management.

Over the years, the Superior NF has contributed to the protection and restoration of the Lake Superior Basin; and the Forest Service is committed to continuing that contribution as a part of Forest Plan revision. The Lake Superior Lakewide Management

Plan considers the larger landscape, and Forest Plan revision used important information from its broad-scale assessments of the basin.

There is also a need for a different approach to monitoring that considers forest products and services as well as the condition of the forest. An ecological approach to monitoring would measure outcomes and outputs and better track the effects of management.

## National Emphasis and Agency Direction

During the past decade, the federal government has strengthened its commitment to sustainable forest management in response to an international consensus to link developing natural resources with protecting the environment. Since 1986, agency direction has shifted the course of agency plans and programs. The focus of the agency has shifted from output-centered management, concentrating on products, to outcome-centered management, concentrating on the long-term condition of landscapes.

The *Forest Service Strategic Plan for Fiscal Years 2004-2008* provides purpose and context for managing national forests. The mission of the Forest Service has been updated in the Strategic Plan to "... sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations." The Strategic Plan also established the following goals:

1. Reduce the risk from catastrophic wildland fire: Restore the health of the Nation's forests and grasslands to increase resilience to the effects of wildland fire.
2. Reduce the impacts from invasive species: Restore the health of the Nation's forests and grasslands to be resilient to the effects of invasive insects, pathogens, plants, and pests.
3. Provide outdoor recreation opportunities: Provide high-quality outdoor recreational opportunities on forests and grasslands, while sustaining natural resources, to meet the Nation's recreational demands.
4. Help meet energy resource needs: Contribute to meeting the Nation's need for energy.

### A New Approach to Forest Management

In 1992, former Chief F. Dale Robertson introduced ecosystem management to the Forest Service:

Ecosystem management means that the Forest Service will use an ecological approach to achieve multiple-use management of the [n]ational [f]orests and [g]rasslands by blending the needs of people and environmental values to sustain diverse, healthy, and productive ecosystems. We will combine our scientific knowledge and experience about patterns of relationships among organisms and their environment with the "land wisdom" of people from many sectors and cultures of our society to care for the land and serve the people.

I am confident that with our knowledge, expertise, and experience, coupled with stronger public involvement, we can bring the American people and their needs together with the land they own. We can do it better than it has ever been done before, by anyone in the world. That's our challenge under this new philosophy.

(Robertson 1992)



5. Improve watershed condition: Increase the number of forest and grassland watersheds that are in fully functional hydrologic condition.
6. Mission related work in addition to that which supports the agency goals: Conduct research and other mission-related work to fulfill statutory stewardship and assistance requirements.

The Forest Service adopted ecosystem management as an operating philosophy for national forests and grasslands in 1992. This shift affects the programs on the Chippewa and Superior NFs.

A new national transportation rule increases the emphasis on public involvement and analysis in developing transportation systems. The national rule responds to changes in public demand for and use of Forest Service resources and responds to the need to better manage funds available for constructing, reconstructing, maintaining, and decommissioning roads. The former emphasis on Forest Service transportation development was replaced by a requirement for transportation analysis that focuses on providing Forest Service road systems that are environmentally sound, safe, and efficient to manage.

Over the past two years, administrative procedures and processes governing preparation of projects to reduce hazardous fuel and restore healthy ecological conditions on federal land have undergone many changes. These changes have resulted in the Healthy Forest Initiative, launched in 2002 to reduce administrative process delays to implementation of such projects, and the Healthy Forest Restoration Act (HFRA), passed in December 2003. HFRA provides improved statutory processes for hazardous fuel reduction projects on certain types of at-risk National Forest System land and also provides other authorities and direction to help reduce hazardous fuel and restore health forest and rangeland conditions on all ownerships.

This EIS will evaluate if and how the 1986 Forest Plans need to be modified in order to reflect these changes in agency direction.

### 1.3.3 Need for Change in Management Direction

The 1986 Forest Plans emphasize managing a limited number of forest resources such as aspen forests, habitat for game species, and recreational opportunities; while public interest has increased for additional forest resources to be considered in planning and for the Forest Service to manage whole ecosystems. Therefore, there is a need for an ecological approach to forest management that takes into account the physical, biological, economic, and social factors that make ecosystems dynamic.

An interdisciplinary team of Forest Service resource specialists and planners identified key areas that need to be changed in the 1986 Forest Plans. Other agencies and the public also provided input on revising the Forest Plans to the interdisciplinary planning team. The *Analysis of the Management Situation* and the *Notice of Intent* document the need to establish new management direction or change current management direction, the following is a brief summary of these two documents. (The *Analysis of the Management Situation* is summarized in Appendix A of the Forest Plans.)

### Biodiversity

The 1986 Forest Plans address biodiversity primarily at small scales and by providing habitat for threatened, endangered, sensitive, and management indicator species. New science indicates that a landscape approach is more responsive to meeting the needs of multiple species.

Important elements of diversity in a forest are 'composition' and 'structure' (the mix of trees types and ages across a forest and the layers of vegetation between the ground and the tree tops). One way the 1986 Forest Plans address diversity is by considering the tree species and ages in a particular stand (a group of trees). At the time the 1986 Forest Plans were developed, a broader-based approach to forest structure and species composition was not addressed in detail due to lack of inventory data. With information from the Landscape Committees of the Minnesota

Forest Resources Council and the Terrestrial Ecological Unit Inventory and the analytical capabilities of Geographic Information Systems, we can better manage for forest vegetative composition, age distribution, and patch size across the landscape.

Management direction in the 1986 Forest Plans is framed in terms of forested and non-forested cover types. Management that focuses on cover type concentrates on the upper canopy (spreading branchy layer) of trees with minor consideration of the lower canopy. There is a need to reframe management to consider vegetation growth stages that provide for the diversity of tree, shrub, and herbaceous species that occur naturally and contribute to structure and compositional diversity.

It is also necessary to develop management direction that incorporates ecosystem processes, such as the role of prescribed fire and timber harvest in emulating natural disturbances. This kind of management direction could also deal with the unnatural buildup of woody fuel that resulted from excluding fire over time. The fuel buildup could lead to more intense and damaging fires than would naturally occur.

The 1986 Forest Plans emphasize a species-by-species or community-by-community management approach to protecting rare natural resources, rather than using a broader, ecological approach. Rare natural resources are elements of ecosystems that are uncommon outside of the Boundary Waters Canoe Area Wilderness (BWCAW). These resources include:

- Large patches of old forest
- Old-growth forest
- Habitat for rare species
- Rare natural communities
- Representative natural communities (ensure that a variety of habitats for all plant and animal species are present)

In addition, the list of Regional Forester sensitive and other rare species in the 1986 Plans no longer accurately reflects current sensitive species. There is a need to integrate management direction for currently listed species in to the revised Forest Plans

Therefore, there is a need to modify management direction to:

- **Address biological diversity at both the site and landscape levels, rather than primarily at the site level**
- **Incorporate ecosystem processes and**
- **Integrate current rare resource list**

## Wildlife and Fish Resources

The 1986 Forest Plans have management direction that emphasizes habitat for wildlife species associated with forest edges. Recent review of species of concern indicates that some species dependent on habitat in the Chippewa and Superior NFs may be at risk. The Forest Service is concerned that continuing to follow some of the management direction in the 1986 Plans for wildlife habitat would have adverse effects on some species in the long term.

The Forest Service is required to provide habitat for all existing native and desired non-native wildlife species. While many people value habitat for popular game species, there is an increased public interest in providing habitat for many other species. The age and species composition of forest vegetation affects the habitat available to all wildlife species. A new strategy is needed that better considers species associated with interior forest habitat and redefines the objectives for age and species composition of forest vegetation.

The 1986 Forest Plans focus on managing individual species or habitats at small landscape scales. This kind of management requires coordination among land managers from all ownerships.

The Forest Service, American Indian tribes, and the Minnesota Department of Natural Resources have different roles and authorities for managing fish and wildlife habitat and species on the Chippewa and Superior NFs. The 1986 Plans do not recognize the cooperative efforts required for managing fish and wildlife habitat.

The list of management indicator species in the 1986 Plans for the two National Forests is not comprehensive. In 1986, the Chippewa NF selected 14 management indicator species and the Superior NF selected 34 management indicator species that include

birds, mammals, fish, and amphibians. These animals were selected to:

- 1) Serve as indicators of change in habitat conditions and
- 2) Accurately predict the environmental effects of forest management practices

Recent scientific review of the use of management indicator species suggests that not all of these animals are likely to reliably serve these purposes. There is a need to review the list and select species that are better indicators.

There is also a need to develop direction for managing non-native invasive species. The 1986 Forest Plans do not specifically address non-native invasive species.

Therefore, there is a need to:

- **Develop management direction for managing whole ecosystems for a variety of wildlife habitats at large landscape scales**
- **Revise the list of management indicator species**

## **Vegetation Management Practices**

There is concern that in the long run management direction in the 1986 Forest Plans will not sustain the array of even-aged and uneven-aged forests that are necessary to create or maintain structural or age-related diversity as required under the National Forest Management Act. There is a need to adjust management direction to create the needed range of even-aged and uneven-aged forests.

The 1986 Forest Plans emphasize growing and regenerating aspen, with much less emphasis on managing conifers and other hardwoods. Revised Forest Plans need to consider the mix of tree species and vegetative communities required on the Forests to provide for long-term sustainability of healthy forest communities.

The 1986 Plans focus on clearcutting (removing most trees in a stand in a single harvest) as a means of perpetuating or increasing the aspen and short-rotation conifers. When the 1986 Plans were developed,

uneven-aged management methods (treatments that maintain and regenerate a stand with three or more age classes) were not considered because of the high cost of preparing sales and low value of products removed with these techniques. With increased efficiencies in timber operations and increased stumpage prices (the price of standing trees) for products removed through uneven-aged techniques, there is a need to reconsider uneven-aged methods.

The 1986 Forest Plans do not recognize fire as an essential ecological process in forest management. At the national level, Forest Service direction has changed to place a greater emphasis on the use of fire to achieve ecological objectives. There is a need to reconsider direction for fire management and address fire in an ecological context.

Fire management in the 1986 Plans focuses on suppression and use of prescribed fire (controlled fires set on purpose to reach management objectives) for preparing harvested sites for regeneration. This focus has limited the use of prescribed fire. Because fire has been excluded from many forested areas, woody fuel has built up, resulting in greater consequences of wildfire. In some areas, wildfire is expected to result in a greater threat to public and fire fighters safety, greater potential for loss of site productivity, and more risk of forest resources and improvements being destroyed.

In northern Minnesota, many forest ecosystems are dependent on disturbance to regenerate. If these forests do not experience disturbance, the forest ecosystem cannot support the existing type of forest and will change into another forest type. Prescribed fire is one way to reintroduce the disturbance that is needed to maintain certain forest types. However, the 1986 Forest Plans do not emphasize this kind of use of prescribed fire.

Therefore, there is a need to:

- **Emphasize both even-aged and uneven-aged management**
- **Emphasize site suitability**
- **Better integrate fire management into direction for vegetation management practices**

## Timber Resources

The 1986 Forest Plans set the allowable sale quantity (ASQ is the maximum volume of timber that may be sold in a ten year period) at 790 million board feet (MMBF) for the Chippewa NF and 970 MMBF for the Superior NF. During the past 15 years of plan implementation, the Forests produced about 80% of the maximum volume. ASQ is not a goal for production but a maximum limit on volume that the National Forests can sell within a decade while meeting the requirements for multiple uses and resource protection. In the 1986 Forest Plans, standards and guidelines were not incorporated into the model used to determine the ASQ.

Actual yields of timber per acre have been less than those predicted in the 1986 Plans. Yields were reduced for many reasons including:

- 1) More trees and groups of trees are retained on harvest sites than originally anticipated
- 2) A decline in merchantable volume has occurred as a result of stand aging
- 3) More diverse silvicultural practices are used than anticipated

In the 1986 calculations, the Superior NF did not schedule timber harvest for all land potentially suitable for producing timber because of low demand for certain types of timber at that time. Since 1986, however, both demand for forest products and stumpage prices have increased.

Therefore, for both National Forests, there is a need to:

- **Recalculate suitable acres for timber production**
- **Review standards and guidelines**
- **Recalculate timber yields per acre to better reflect actual removals**
- **Arrive at an ASQ that incorporates all of these factors.**

## Water Resources

The 1986 Plans emphasize terrestrial (land-based) ecosystems with little direction for watersheds and riparian areas (banks along water ways). It is

necessary to integrate composition and structure of aquatic communities (all the organisms that live in the water and riparian areas) and hydrologic function (properties, distribution, and circulation of water) into the assessment of ecosystem integrity. The 1986 Plans provide direction for protecting water resources solely through mitigation of site-level impacts of management activities.

While the 1986 Plans provide riparian management direction intended to protect water quality, they lack direction for protecting, enhancing, or restoring fish habitats and other benefits associated with functioning riparian areas.

Therefore, there is a need to revise management direction to:

- **Integrate composition and structure with hydrologic function**
- **Develop management direction for both entire watersheds and site-level projects**
- **Develop management direction for maintaining and restoring riparian functions.**

## Recreation Resources

The amount and quality of the natural surroundings for recreational activities in the 1986 Forest Plans may not provide an adequate range of recreational opportunities. Outside the Boundary Waters Canoe Area Wilderness, the 1986 Forest Plans emphasize recreation in areas that are predominantly natural appearing with moderate evidence of forest management activities, and there is little emphasis on semi-primitive opportunities.

Revised Forest Plans need to determine the emphasis on scenic integrity in forest management, especially in high-use travel corridors. An emphasis on scenic integrity can limit forest management activities.

Demand for opportunities with recreation motor vehicles (all-terrain vehicles and snowmobiles for example) has increased. Forest Plan revision needs to determine the type of use and restrictions on the use of

recreational motorized vehicle use on roads, trails, and for cross-country travel.

The 1986 Plans have little direction for developing water access, such as boat ramps. Ecological, social, and economic criteria need to be used in determining the management direction for the allowable levels of water access development.

Therefore, there is a need to determine:

- **The mix of forest settings and associated recreational opportunities**
- **Scenic integrity levels**
- **Use and restrictions on recreational motor vehicles**
- **Level of water access development that the two National Forests will emphasize**

## Socio-economic Considerations

Since 1986, positions and policies of Tribes, counties and the State have evolved and/or developed. Revised Forest Plans need to consider these Tribal interests and plans as well as state landscape level plans and county comprehensive plans.

The National Forests are important to economic sustainability in local communities, and the Final EIS

will analyze the impacts to local communities to determine the level of goods and services that the Chippewa and Superior NFs provide. Management activities on the National Forests also affects social sustainability, and the Final EIS also analyzes the impacts of the revised Forest Plans on people's sense of place, cultural and traditional uses, access to recreation opportunities, and the unique character of local communities. Because ownership on the Chippewa and Superior NFs is mixed, there is a need to integrate management opportunities with other land managers.

There is a need to **address current economic needs, social conditions, expectations, and values of individuals, tribes, government agencies, surrounding communities, and organizations.**

## Other Considerations

During Forest Plan revision, management direction for additional topics may also be changed. For some of these topics, Forest Plan revision will not make major changes to the 1986 management direction, however some changes are likely. The Forest Service may develop desired conditions, objectives, standards, and guidelines for other topics that currently do not have management direction (see revised Forest Plans).

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# 1.4 PUBLIC INVOLVEMENT AND COOPERATIVE PLANNING

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Throughout the revision process, the Forest Service has consulted with federal, tribal, State, municipal, and county government agencies as well as private organizations and individuals. A special effort has been made to involve the bands of the Minnesota Chippewa Tribe that reside within and around the Forests' boundaries. The Forests also consulted with universities and the Research and the State and Private Forestry divisions of the Forest Service.

The public has been informed of the revision

process through newsletters, news releases, open houses, workshops, public meetings, and documents posted on the Internet.

The public commented with letters and participated in workshops and meetings during several stages of the revision process, including:

- Identifying needed change
- Responding to the Notice of Intent
- Identifying issues

- Developing preliminary alternatives
- Reviewing preliminary alternatives

The public also reviewed and commented on the Draft EIS and the Proposed Revised Forest Plans (public comments are addressed in Appendix J of the Final EIS).

Appendix A and the planning record, located at the Superior NF Supervisor's Office, contains a discussion of public involvement. They explain how public comments helped to identify, prioritize, and refine Forest Plan revision issues, concerns, and alternatives. These documents also describe in more detail how public involvement helped the Forest Service decide what new information to gather and where new strategies were needed to better manage the Chippewa and Superior NFs.

Forest Plans only provide direction for NFS land on the Chippewa and Superior NFs, but many forest management issues cross administrative boundaries and must be addressed on a scale larger

than a single national forest. Separate from Forest Plan revision, the Minnesota Forest Resources Council Landscape Committees - an interdisciplinary, inter-agency, and inter-governmental team - assessed the environmental conditions and human use in the larger landscape. This team also considered what the future conditions and uses of the landscape might be based on the biological and physical capabilities of the land and predicted needs of people in the future. This landscape-level assessment was done cooperatively with many organizations and individuals. During the assessment, the two Forests worked with industry groups, environmental groups, local private landowners, the Minnesota DNR, tribal governments, adjacent counties, and the general public.

In order to use planning resources more efficiently, the Chippewa and Superior NFs also consulted the planning team from the Chequamegon-Nicolet National Forest in Wisconsin.

## 1.5 ISSUES

### 1.5.1 Introduction

An issue is a potential conflict from an effect on physical, biological, social, or economic resources. Issues were identified through public involvement, internal discussion, and analysis. Issues stem from the need for change topics previously summarized in the "Need for Change in Management Direction" section.

Preliminary revision issues were proposed in the *Need for Change* information package that was widely distributed to the public, including government agencies (tribal, State, and county) in May of 1996. After reviewing the responses from the public, the Forest Service integrated the issues raised and developed the issues discussed in the Final EIS.

In November of 1996, a public workshop was held to further define the most controversial issues. As a result, the public helped prioritize which aspects of the Forest Plans would be addressed through revision and

helped clarify the issues associated with the most contentious topics.

Since 1996, additional issues have been raised and the interdisciplinary team has refined the issues, resulting in the issues listed below.

This EIS addresses recreation and social issues that were not in the August 1997 *Notice of Intent*. These issues are a result of continued public comment and national policy directives. The issues of treaty responsibilities to American Indians and Wild and Scenic Rivers are addressed in all alternatives through Forest-wide and management area direction.

The planning record, located at the Superior NF Supervisor's Office, describes how the original issues evolved in more detail. Additional information on how issues were developed is in the planning record. Appendix A of the Forest Plans also describes some issues.

## Issue Indicators

Each issue discussed below has one or more indicators that measure existing conditions and potential effects of management activities. Generally, indicators are quantitative, but some are qualitative. The indicators that are listed here in Chapter 1 are general indicators. General indicators will also be used in Chapter 2 to highlight differences between the alternatives and help summarize the environmental, economic, and social impacts of the alternatives. The analysis for some resources in Chapter 3 may use additional indicators to show the differences between alternatives in more detail.

Depending on the issue, indicators may be measured over different time periods and in different geographic locations. Indicators are analyzed at in multiple timeframes (at 10, 50, 100 years) and multiple spatial scales (national forest, landscape ecosystem, county).

Applicable issue indicators will be documented and evaluated by resource area through Forest Plan monitoring. For more information on monitoring indicators, see Chapter 4 of the Revised Forest Plans.

## Why are Biodiversity and Rare Natural Resources Not Considered “Issues”?

Biodiversity encompasses all of life and its interconnection. This topic is not addressed as a separate issue in this EIS because of its breadth and because many issues analyzed in the EIS address it. However, Chapter 3 presents information on biodiversity and analyzes key components of biodiversity.

Rare natural resources are elements of ecosystems that are increasingly uncommon on the landscape outside the BWCAW. On the National Forests, these resources include large patches of old forest, old-growth forest, pine forests, threatened, endangered, sensitive species and habitats, and rare and representative natural communities. Like biodiversity, rare natural resources are not addressed as separate issues because they are encompassed by other issues. Chapter 3 presents information on key components of rare natural resources.

In Chapter 3, the *Forest Vegetation* and *Wildlife* sections describe the biological components, including rare species, habitats, and natural communities, of ecosystems and potential effects to the diversity of forest vegetation and wildlife species.

The *Watershed Health* and *Fire* sections discuss the physical components of the ecosystems, including water, soil, and fire regimes. Human components of the ecosystems are analyzed in the *Timber*, *Recreation*, *Economic Sustainability*, and *Social Sustainability* sections.

The physical, biological, economic, and social components of biodiversity represent a range of resources considered in this document. Most resources represent a mix of inter-related biophysical and human components. For instance, the timber resource manages trees (biological) to provide goods and jobs (economics) to support local communities (social). The trees and other forest vegetation, in turn, depend on productive soils, oxygen, and water (physical) to grow and provide habitat for deer (biological) for people to watch or hunt (social and economic).

Most social and economic resources related to forest management are heavily dependent on the biophysical resources for long-term sustainability. Put another way, sustainable goods and services are the product of healthy, properly functioning ecosystems. Therefore, forest management focuses on maintaining or restoring the biophysical components of ecosystems in order to contribute to biological diversity and economic opportunities while providing social and cultural benefits over the long term.

## Why is Forest Health Not Considered an “Issue”?

Defined broadly, *forest health* encompasses all aspects of forest conditions. Forest health includes vegetation age, composition, spatial arrangement, habitat provided, fire, insects, diseases, non-native invasive species, forest growth, forest productivity, and sustainability. These aspects of forest health are addressed throughout the analysis in the EIS. Therefore, forest health is not addressed as a separate

issue.

## 1.5.2 Forest Vegetation

**Forest Service Responsibility:** In forest planning the Forest Service is responsible for providing for diversity in plant and animal communities and tree species, and the agency must provide for the overall multiple-use objectives of national forests (1909.12 FSH 219.26). The Forest Service is responsible for ensuring a sustainable flow of forest products (Multiple Use/Sustained Yield Act), and the age of vegetation will affect the flow of forest products.

### Forest Age & Composition

*Forest age* refers to the age of trees in a forest, and age-class distribution tells us how much of the forest is dominated by young trees, mature trees, and old trees. *Forest composition* refers to all the plant species found in a stand or in a landscape, including trees, shrubs, forbs, and grasses. *Forest structure* refers to the layers of vegetation between the ground and the treetops, such as herbaceous plants, shrubs, and trees. *Forest health* issues deal with factors that can enhance or reduce an ecosystem's resiliency to disturbance and long-term sustainability. The following factors can individually or in combination positively or negatively affect forest health: management practices, pest activity, beneficial organisms, fire, pollutants, and storm damage.

**1986 Forest Plan Direction:** In the 1986 Forest Plans, goals for forest age-class distribution and species composition were developed with emphasis on long-term needs for commercial timber products and provide habitat conditions for game and non-game species. The 1986 Forest Plans include a goal of increasing the aspen component to meet fiber needs. Additionally, the 1986 Forest Plans do not provide a consistent definition of old-growth forest and do not provide methods for allocation, distribution, and management of old-growth forests. 'Forest health' is not defined or listed as a goal in the 1986 Forest Plans but is addressed to various degrees in other areas such as fire and pest management.

**Concerns:** Some people are concerned that forest management practices have changed forest age and composition. They believe that these changes may have adverse impacts on ecosystem integrity and on the Chippewa and Superior NFs' ability to provide goods and services in the future. They are concerned that the decrease in old conifer trees has diminished scenic quality, the variety of recreation settings, and the quality of wildlife habitat associated with conifers. Some people are concerned that changes in the age of forest vegetation may have adverse impacts on the Chippewa and Superior NFs' ability to provide long-term ecosystem benefits, such as forest products. Additionally, some people are concerned that formerly common and now increasingly rare forest types and tree species such as the pines are not given a high enough priority in comparison with other types and species such as aspen and may therefore be at risk.

Other people think that the changes in age and tree species have not had adverse impacts on ecosystem integrity or other benefits. They also believe that maintaining current levels of young forests provide important benefits, such as healthy and productive forests that provide sustainable timber fiber products and habitat for wildlife. Some would specifically like to see aspen maintained because of its social and economic value and its benefits to wildlife. They think that the 1986 Forest Plans provide for adequate older forest, especially on the Superior NF where one-third of the Forest is wilderness and older forests are expected to dominate. There is also a concern that the large acreage of old aspen will become unmerchantable and unhealthy.

Some people think that national forests should be managed to provide more old-growth forests, while others believe that the increase in older forest since the early days of logging is more than enough old growth. There are also concerns that the Chippewa and Superior NFs need a strategy for restoring ecosystem integrity in forests that are dying due to old age. Still others believe that current amounts or small increases in old growth would provide an adequate amount of old growth without having adverse impacts on ecosystem integrity. They are concerned that greater increases would have adverse impacts on some social and economic values.

Views on how old-growth forests should be managed are also highly divergent, ranging from "hands off" to



permitting commercial timber harvesting. Some people believe that letting the forests succeed to older growth stages encourages insects and disease that reduce productivity, forest health, and increase fire risk. Others believe that insect and disease are a natural part of healthy forest ecosystems. Still other people think that insects and diseases should be present in quantities similar to those found without human disturbance.

**Specific Issue:** There are differing opinions about what forest ages and forest tree species will provide adequate forest structure and biodiversity while providing for the social and economic needs of people over the long term. Forest Plan revision will determine the long-term goals for young, mature, old, and old-growth forests and for the species composition of forest communities, types of forest vegetation communities, and distribution of the communities. Revision will also determine if old growth will be actively managed, and if so, how it would be managed. Another decision to be made is if old growth will be permanently allocated to a location or be transient on the landscape.

**Issue Indicators:**

- Amount of Forest Types
- Amount of Forest in Age Groups
- Use of Management Treatments that Increase Within-Stand Complexity
- Size, Amount, and Distribution of Old-growth Forest

## Forest Spatial Patterns

*Forest spatial patterns* refers to the size, shape, and arrangement across the landscape of:

- Forest types, habitats, and vegetation communities
- Disturbances, both natural and forest management

**1986 Forest Plan Direction:** Standards and guidelines in the 1986 Plans have led to small patch sizes. The maximum size for even-age harvests has generally been 40 acres, with some areas on the Superior National Forests up to 200 acres.

**Concerns:** There is agreement that managed landscapes have fewer large patches of forest than landscapes that are not managed by people. However,

there is disagreement over whether the effects of fewer large patches of forest are beneficial or adverse.

Current management on both Forests is reducing stand size and increasing forest edge. This favors populations of wildlife game species, such as deer or grouse, and disfavors species requiring large areas of contiguous forest. Some people are concerned about the effects to species requiring large areas of contiguous forest, including impacts on regional and national biodiversity. Others view current management as favorable because of the wildlife habitat created for game species. Some people believe that fragmentation is a natural component of Minnesota forests.

Of those who support larger patch sizes, there are many views on how patch size should be increased. Some suggest this should be done by reducing or eliminating clearcutting and managing for more uneven-aged stands or old growth. Others support increasing the size of even-aged timber harvest areas as a way to achieve larger patch sizes.

**Specific Issue:** There are differing opinions about what forest spatial patterns would provide for ecosystem integrity and for the social and economic needs of people. Forest Plan revision will establish long-term goals for the size and distribution of forest patches.

**Issue Indicators:**

- Size and Amount of Large Mature and Older Forest Patches
- Size and Amount of Large Young Forest Patches
- Amount of Forest Interior Habitat
- Management Induced Edge Density

## 1.5.3 Wildlife Habitat

**Forest Service Responsibility:** The National Forest Management Act, Endangered Species Act, other laws, and federal regulations require the Forest Service to maintain or improve biological diversity at the genetic, species, and ecosystem levels and to maintain viable populations of existing native and

desired non-native species. Federal regulations (36 CFR 219.19) require management to maintain viable populations, which are defined as those having the estimated numbers and distribution of reproductive individuals to ensure their continued existence is well distributed on national forests. Federal law also requires considering wildlife resources equally with other renewable resources in managing forests and how to manage non-native invasive species. Other federal laws assign national forests a role in managing wildlife habitat and support cooperation in such management with states and American Indian tribes.

**1986 Forest Plan Direction:** The 1986 Plans emphasize habitat management for game species, such as deer, ruffed grouse, and moose while maintaining at least minimal habitat for viability and well-distributed habitats for all species. Management direction for wildlife habitat is different between the Chippewa and Superior NFs. Direction in the 1986 Plans uses a single-species approach to protecting rare resources. However, many of the sensitive species and the federally threatened Canada lynx are newly listed since the 1986 Plans were developed and are not identified or specifically addressed.

**Concerns:** Some people think that the 1986 Forest Plans appropriately emphasize habitat management for popular and economically important game species such as deer, ruffed grouse, and moose. They believe this direction adequately promotes diversity and provides for a full array of habitats to meet the needs of all wildlife, especially on the Superior NF where the Boundary Waters Canoe Area Wilderness contributes to the range of habitats. They are concerned that a change in current management could result in an undesirable decline in populations of deer, moose, and many other species, including species of concern that depend, in part, on habitats associated with aspen-dominated forests, forest openings, young forest, shrublands, and edge habitat.

Other people are concerned that the 1986 Forest Plan direction does not place enough emphasis on managing for all wildlife species. They believe that the direct, indirect, and cumulative effects of management activities have reduced the diversity of wildlife habitat and reduced the long-term sustainability of some species, including species of concern. Of particular concern are species and habitats associated with large old trees; old forest;

unfragmented forest landscapes; structural and compositional diversity of vegetation within forest stands; upland conifer forests; coarse woody debris (standing and downed dead trees and logs) in forests, lakes, and streams; and forests that have remote, wildland, or interior forest conditions.

Another concern is that the 1986 Forest Plans focus on managing individual species or habitats at small landscape scales rather than at larger scales that consider conditions on all ownerships.

Some people are concerned that the 1986 management direction does not adequately emphasize maintaining, protecting, or restoring rare species. There is concern that threatened, endangered, and sensitive species are not given a high enough priority in comparison with other uses and may therefore be at risk. They are also concerned that a managing for one species or rare natural community at a time is often reactive or mitigative instead of taking a proactive approach with planning how to conserve rare resources across the landscape.

Others believe that rare species are adequately emphasized under current management direction and are concerned that an increased emphasis on some rare species would unnecessarily limit other management activities such as timber harvest and recreational development. They are also concerned that a single-species or rare community approach is ineffective and often overly protective because it does not adequately recognize the dynamic nature of ecosystems.

**Specific Issue:** There are differing opinions about how the Forests should be managed for the full array of wildlife species and habitats, whether rare or common, and what habitats and species should be emphasized. Forest Plan revision will establish goals for the types, amounts, distribution, spatial pattern, and function of wildlife habitats. This will include how, where, and to what extent rare species and their habitats will be protected, enhanced, or restored.

### Issue Indicators:

#### Management Indicator Habitats

- Upland Forest habitat acres and percent in Young & Mature/Old
- Upland Deciduous Forest habitat acres and percent in Young & Mature/Old

- Upland Northern Hardwood Forest habitat acres and percent in Young & Mature/Old
- Aspen-Birch Forest habitat acres and percent in Young & Mature/old
- Upland Conifer Forest habitat acres and percent in Young & Mature/old
- Spruce-Fir habitat acres and percent in Young & Mature/Old
- Red and White Pine Forest habitat acres and percent in Young & Mature/old
- Jack Pine Forest habitat acres and percent in Young & Mature/old
- Lowland Black Spruce-Tamarack Forest habitat acres and percent in Young & Mature/Old
- Upland Mature Riparian Forest habitat acres and percent
- Management-induced edge habitat in upland and lowland forest – density (mile/mile<sup>2</sup>)
- Forest interior habitat acres in Mature/Old
- Large forest patch habitat size and acres in Mature/Old
- Aquatic habitats – lake and stream health

Threatened and Endangered Species environmental conditions

- Canada lynx
- Gray wolf
- Bald eagle

Regional Forester Sensitive Species environmental conditions

- 107 terrestrial and aquatic animals and plants

Other Species of Management Concern environmental conditions

- Northern goshawk (Management Indicator Species)
- White pine (Management Indicator Species)
- American woodcock
- White-tailed deer
- Ruffed grouse

Non-native Invasive Species

Recreation effects to wildlife

- Public access on roads
- Motorized summer (ATV) trails - maximum miles of new trail

- Motorized winter (snowmobile) trails - maximum miles of new trail
- Cross country ATV and snowmobile use - level of use restriction
- Water Access – facility level of development

## 1.5.4 Timber

**Forest Service Responsibility:** In 1897, the Organic Act established the national forests to, among other things, furnish a continuous supply of timber. The regulations for implementing the National Forest Management Act require the Regional Forester to estimate the amount of timber that can be sold annually on a sustained-yield basis. The National Forest Management Act also requires that forest planning identify land that is not suited for timber production.

### Uneven-aged vs. Even-aged Management

*Uneven-aged management* is a planned sequence of treatments designed to maintain and regenerate a stand of trees with three or more age classes. An example is selection harvest that creates or maintains multiple age classes. *Even-aged management* results in stands in which the trees are essentially the same age. Examples of even-aged management are clearcutting and shelterwood harvests.

**1986 Forest Plan Direction:** The emphasis that the 1986 Plans put on harvest methods is based primarily on clearcutting, which makes up more than 90% of final harvest treatments.

**Concerns:** Even-aged forest management, especially clearcutting, is controversial. Some people view clearcutting as a sound silvicultural practice that effectively mimics natural disturbances and is the best method for regenerating trees that are shade-intolerant. Clearcutting promotes the maintenance of aspen-dominated forest that provides many economic, social, and ecological values including commercial timber and habitat for popular game species, such as deer and grouse. Lower costs and higher economic returns are also associated with even-aged systems.

Others would like to see clearcutting eliminated or used less often because they believe it has been used too frequently, resulting in adverse ecological, social, and economic effects. They favor increasing the use of uneven-aged systems to provide more scenic landscapes, varied timber products, and habitat for diverse wildlife without emphasis on game species (deer and moose). They believe an uneven-age forest structure is more representative of natural conditions and would enhance or restore ecosystem integrity.

**Specific Issue:** There is debate about how much even-aged management can be used while providing for ecological integrity as well as the economic and social needs of people. Forest Plan revision will establish how much even-aged management (especially clearcutting) may be used and in what forest types and landscape ecosystems it may be used.

**Issue Indicators:**

- Percent of harvested acres that are clear cut
- Percent of harvested acres with even-aged management, including clear cut
- Percent of harvested acres with uneven-aged management

## Timber Supply

**1986 Forest Plan Direction:** The 1986 Forest Plans overestimated the amount of timber that could be sold while meeting Forest Plan standards that protect the environment.

**Concerns:** Views are strongly polarized on how much timber the Chippewa and Superior NFs should harvest. Some people believe harvest levels should be maintained or increased from current levels to capture economic value; meet demand for timber products; prevent increased harvest pressure on private land, other public land, and in other countries; maintain forest health; and support economies of local communities and the timber industry. Others prefer that harvest be decreased from current levels or be stopped all together to protect rare ecosystems, protect old growth, and minimize impacts to recreation and aesthetic values.

**Specific Issue:** There are divergent opinions on

how much timber the Chippewa and Superior NFs can supply without adversely affecting ecosystem integrity and the social and economic needs of people in the long term. Forest Plan revision will determine the level of timber harvest that the Chippewa and Superior NFs may supply over time. Revision will also establish the acreage and location of land that is suitable for timber production.

**Issue Indicators:**

- Timber sell volume (million board feet, cubic feet)
- Land suitable for timber harvest (acres)

## Mix of Forest Products

**1986 Forest Plan Direction:** The 1986 Forest Plans emphasize pulpwood production.

**Concern:** Some people believe that the Chippewa and Superior NFs should produce more sawtimber. They suggest that sawtimber benefits local mills more than pulpwood does. While others think that the current mix of forest products adequately meets the needs of local mills.

There is also concern that the sawtimber and pulpwood mix needs to be part of how the Chippewa and Superior NFs determine the volume of timber sold.

**Specific Issue:** There are different views on what mix of forest products will adequately provide for local mills over the long term. Forest Plan revision will determine the mix of sawtimber and pulpwood that the Chippewa and Superior NFs may supply.

**Issue Indicator:**

- Mix of Forest Products (MMBF per year)
- Ratio of Sawtimber to Pulpwood

## 1.5.5 The Role of Fire

*Prescribed fires* are intentionally set by forest managers under controlled conditions to meet specific natural resource objectives. *Fuels* are anything that will burn such as trees, branches, grass, and pine needles.

**Forest Service Responsibility:** In forest planning, the Forest Service is responsible for determining vegetation management practices for each vegetation type and circumstance (FSH 219.15). Forest Plans must also determine standards and guidelines for vegetation management. The Forest Service has embarked on a national 10-year plan (*A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy August 2001*) that emphasizes reducing hazardous fuels as one of its four main goals.

**1986 Forest Plan Direction:** The 1986 Plans focus on fire suppression and the use of prescribed fire for preparing sites to regenerate trees.

**Concerns:** Some people question the cost effectiveness and safety of using prescribed fire as a tool for mimicking natural disturbance and reducing fuel loads relative to using other methods. There is concern that using prescribed fire would waste valuable timber and; therefore, prescribed fire should be considered only in areas of non-productive forests. They think silvicultural practices, such as timber harvest, rather than prescribed fire should be used to mimic natural disturbance and to reduce fuel. In areas of mixed ownership land, there is a concern that mimicking natural disturbances by using prescribed fire would make it difficult to protect those areas that are not NFS land.

Other people believe the use of prescribed fire as a means of disturbance would improve ecosystem integrity in fire-dependent communities, reduce chances for catastrophic wildland fire, and help control insects and disease.

**Specific Issue:** There are differing opinions about the use of prescribed fire on the Chippewa and Superior NFs. Forest Plan revision will determine

how, where, and to what extent prescribed fire may be used to mimic natural processes and to restore natural processes and functions to ecosystems, and to reduce fuels.

### Issue Indicators:

- Relative Fire Risk Index
- Use of Management-ignited Fire for Ecological Objectives (acres)
- Management-ignited Fire for Hazardous Fuels Reduction (acres)
- Use of Management-ignited Fire for Site Preparation (acres)
- Air Quality

## 1.5.6 Watershed Health

### Watershed Management

**Forest Service Responsibility:** In forest planning, the Forest Service is responsible for protecting and improving soil, water, and vegetation because of potential management effects upon aquatic and wildlife resources (Multiple Use/Sustained Yield Act). The Forest Service must also comply with the Clean Water Act and other federal, State, and local requirements for water quality. Along with timber supply, watersheds and conditions of water flow are the statutory foundation of national forests (Organic Act of 1897).

**1986 Forest Plan Direction:** Under the 1986 Plans, potential adverse impacts to watersheds are mitigated at the site level.

**Concerns:** Some people think fostering ecosystem integrity on a watershed basis should be a more influential part of forest management than it currently is. There is concern that the approach in the 1986 Forest Plans will perpetuate the poor ecological condition of some watersheds and may threaten viability of some rare species.

Others see little or no need for increased emphasis on watersheds and believe that the current approach to watershed management is adequate. They believe that changing the approach to watershed management would reduce the goods and services that the

Chippewa and Superior NFs could provide.

**Specific Issue:** There are divergent opinions about how much emphasis to give watershed health in forest management. Forest Plan revision will determine the approach taken to management activities in watersheds. Measures to protect and enhance watersheds could either remain as they are in the 1986 Forest Plans or provide direction for enhancing and restoring watersheds.

**Issue Indicators:**

- Trend of watershed impacts from transportation system (percent of watersheds)
- Stream crossing density (number of crossings per stream mile)
- Portion of National Forest land with watershed management above the stewardship level (percent of Forest)
- Soil quality associated with treatment activities, temporary roads, OML 1 roads, skid trails, and landings (acres)
- Soil quality associated with fire (acres)
- Soil nutrient cycling on sensitive sites (acres)
- Recreation effects (descriptive)
- Cumulative effects indicator): Portion of watershed in upland open and upland young (less than age 16) forest (number of watersheds)

## Riparian and Fish Management

**Forest Service Responsibility:** In forest planning, the Forest Service must provide for protecting and improving soil, water, and vegetation because of potential management effects upon aquatic and wildlife resources (Multiple Use/Sustained Yield Act). Through written agreement, the Chippewa and Superior NFs have endorsed the Minnesota Forest Resources Council's site-level riparian guidelines for use as a base of riparian management.

Federal laws give national forests a role in managing fish habitat on federal land. These laws and policies support cooperation in such management with states and American Indian tribes. In Minnesota, the Department of Natural Resources (DNR) has similar responsibilities in managing State land and is responsible for managing and manipulating fish

populations in all public waters. On selected waters, American Indian tribes have jurisdiction over non-game and bait fish management and manage game fish populations in partnership with the DNR.

**1986 Forest Plan Direction:** The 1986 Forest Plans seek to mitigate the effects occurring to riparian resources as a result of timber and recreation management. The 1986 Forest Plans also have inconsistencies between the two Forests and direction for managing fish habitat that is not specific.

**Concerns:** Some people believe that the current approach to riparian management in the Forest Plans is adequate. They are concerned that changing the way riparian areas are managed could result in increased constraints on management activities (primarily those related to commercial timber management). These constraints could reduce the economic benefits associated with commercial timber harvest.

Others think that the principal reason for managing riparian areas should be to maintain or improve their key ecological functions for multiple ecological benefits including the protection of rare resources. They are concerned that current riparian management direction is too narrowly focused on protecting water quality by mitigating impacts of management activities or facilities.

The 1986 Forest Plans have inconsistencies between the two Forests and direction for managing fish habitat that is not specific, which has resulted in a mitigative approach to managing fish habitat.

**Specific Issue:** There is debate about how much emphasis should be placed on riparian areas and fish habitat in forest management. Forest Plan revision will determine if the approach to management in riparian areas will stay as it is in the 1986 Plans or if the approach will change to provide direction to enhance and restore riparian functions. Revision may change the management direction for riparian areas, including the size and location of riparian management zones. Forest Plan revision will also develop direction for the role of Forest Service managers in managing fish habitat with other agencies and American Indian tribes. This direction may include objectives for maintaining, restoring, and enhancing habitat for fish, including rare species.

**Issue Indicators:**

- Vegetation community composition in riparian areas (descriptive)
- Vegetation community age in riparian areas (descriptive)
- Amount of riparian areas subject to treatment activities (acres)
- Amount of planned regeneration harvest in recruitment zone for coarse woody debris (acres)

provide areas that have unique habitat and old forest conditions. On the Chippewa NF, some people believe designated wilderness would add to the range of recreational opportunities and help protect special ecological areas by including wilderness values in an otherwise well-roaded landscape.

**Specific Issue:** Public opinions differ on whether or not to add potential wilderness (for ecosystem, social, and other wilderness values) on the Chippewa and Superior NFs. Forest Plan revision will determine which, if any, areas will be recommended for wilderness study area designation. (The Forest Plan revision process did not address the current management direction for the BWCAW.)

## 1.5.7 Special Designations

### Potential Wilderness Study Areas

**Forest Service Responsibility:** In forest planning, the Forest Service must evaluate undeveloped areas of sufficient size and condition for their suitability for further study as potential additions to the National Wilderness Preservation System. While the Forest Service may recommend potential wilderness study areas, only the United States Congress can officially designate new wilderness areas.

**1986 Forest Plan Direction:** Currently, the Chippewa NF has no designated wilderness areas, and the Superior NF has 1.1 million acres of designated wilderness.

**Concerns:** Some people believe that the one-million acre Boundary Waters Canoe Area Wilderness (BWCAW) on the Superior NF already provides an adequate amount of wilderness. They think that additional wilderness or protected areas are not needed in northern Minnesota and that additional wilderness would needlessly impact non-wilderness uses and resources such as timber harvest, motorized recreation, forest access, and wildlife habitat for species needing younger forests.

Other people believe that undeveloped areas on the Forests should be considered and recommended for additional wilderness. They believe that additional wilderness areas bordering the BWCAW would help buffer the Wilderness from adjacent impacts and that wilderness areas not adjacent to the BWCAW would

**Indicator:**

- Areas allocated to the Wilderness Study Area MA (number of areas and total acres)

### Potential Research Natural Areas

**Forest Service Responsibility:** Through the forest planning process, national forests may recommend that new Research Natural Areas (RNA) be established (FSH 1909.25). Planning identifies examples of important forest, shrubland, grassland, aquatic, and other geologic types that have special or unique characteristics of scientific interest and importance and that are needed to complete the national network of RNAs. Forest Plan Revision may recommend potential RNAs, however a separate establishment record is required to officially establish new RNAs.

**1986 Forest Plan Direction:** Currently, the Chippewa NF has four established RNAs. The Superior NF has four established RNAs.

**Concerns:** Some people believe that it is important to increase the number of RNAs on the Forests to maintain biological diversity of native ecosystems and species and foster research and education. They feel that RNAs help preserve our nation's natural heritage for future generations. Because RNAs are protected in a natural state, they believe that RNAs provide valuable opportunities for monitoring long-term ecological change and comparing the effects of

resource management activities against unmanaged controls.

Other people believe that the existing RNAs on the two Forests provide an adequate amount of RNAs. They think that additional RNAs or protected areas are not needed in northern Minnesota and that additional RNAs would needlessly impact other values, such as timber harvest and wildlife habitat for species needing younger forests. Some people feel there is adequate area in northern Minnesota in a protected state to monitor long-term ecological change in areas that will never be managed or will be minimally managed. They feel there are enough resources for study in areas such as wilderness, state parks, state scenic or natural areas, county parks, and large expanses of remote wetlands.

**Specific Issue:** There is debate about how many RNAs on the Chippewa and Superior NFs are needed to provide for biodiversity and research opportunities while at the same time providing for consumptive forest uses. Forest Plan revision will determine which, if any, additional RNAs will be recommended for establishment.

**Indicator:**

- Acres recommended for RNA designation

## 1.5.8 Recreation

**Forest Service Responsibility:** In forest planning, the Forest Service is responsible for identifying an appropriate mix of recreational opportunities for NFS land and the settings needed to provide quality recreational opportunities. The Forest Service must also integrate visual quality into the forest planning process (FSH 1909.12, 219.21(f)). Visual landscapes are “treated as an essential part of, and receive equal consideration with, the other basic resources of the land,” as stated in the Forest Service Manual. The Forest Service is required to plan off-road vehicle use to protect land and other resources, promote public safety, and minimize conflicts with other uses (FHS 1909.12 Sec. 219.21(g)). Many federal laws give national forests a role in managing water access on federal land and support cooperation in such management with states and American Indian

tribes.

Overall, recreation planning on NFS land is guided by the Multiple Use Sustained Yield Act (1960). In addition, one of the objectives of the USDA Forest Service Strategic Plan (2000 Revision) is to improve the capability of the nation’s forests to provide diverse, high-quality outdoor recreation opportunities that are compatible with ecosystem sustainability.

## Recreational Opportunities and Forest Settings

**1986 Forest Plan Direction:** Most of the 1986 Chippewa Forest Plan emphasizes a roaded natural recreational setting, with about two percent in a semi-primitive setting on the Forest. On the Superior NF, about one-third of the Forest is in primitive or semi-primitive settings in the Boundary Waters Canoe Area Wilderness. Outside the Wilderness, the Superior Forest Plan emphasizes a roaded natural setting, and about three percent of the Forest is in a semi-primitive motorized setting.

**Concerns:** Some people want the National Forests to provide primitive and semi-primitive settings and recreational opportunities that focus on hiking, backpacking, canoeing, and motorized travel on trails. Other people desire forest settings that provide less primitive settings and emphasize recreation with more developed facilities, such as campgrounds, picnic areas, boat launches, and greater access on a network of roads and trails. Still others desire a mix of these recreational opportunities across the Chippewa and Superior NFs.

**Specific Issue:** There are differing opinions about what recreational opportunities and forest settings should be emphasized on the Chippewa and Superior NFs. Forest Plan revision will establish objectives for forest settings and associated recreational opportunities, specifically the amount and location of each forest setting.

**Issue Indicator:**

- Recreation Opportunity Spectrum class objectives (percent)



## Scenic Quality

**1986 Forest Plan Direction:** The 1986 Forest Plans used the Visual Management System for setting goals and objectives for scenic quality. However, since 1986 the Forest Service has adopted a new system, the Scenery Management System. This new system needs to be incorporated into the revised Forest Plans.

**Concerns:** People are concerned about the scenic values of the landscape. Most people express a strong interest in maintaining the natural character of the forest, but there is a difference of opinion about what is natural. Some people place high value on landscapes with little evidence of management activity such as timber harvest, roads, utility corridors, or other developments. Other people consider landscapes with higher levels of management activity to be natural appearing. Some people prefer a park-like forest with large trees and relatively open beneath the tree crowns. Still others prefer forests where vegetation is multi-layered and woody debris has accumulated on the forest floor.

Some people are also concerned that a strong emphasis on scenic quality would reduce the amount of forest management activities, especially harvesting, allowed in some areas.

Still others are concerned that forest management activities becoming more apparent would have negative impacts to recreational experiences and tourism.

**Specific Issue:** There are many ideas of what a 'natural' appearing forest looks like and how much emphasis there should be on scenic integrity in forest management. Forest Plan revision will determine management direction for maintaining, enhancing, restoring, and monitoring scenic integrity. Revision will also establish Scenic Integrity Objectives for the Forests, which guide the amount, degree, intensity, and distribution of management activities needed to achieve desired scenic conditions.

### Issue Indicator:

- Scenic Integrity Objectives (acres)
- Narrative description of the scenic character of alternatives

## Recreational Motor Vehicles

*Recreational motor vehicles* (RMV) include off-highway motorcycles, off road vehicles, all-terrain vehicles, and snowmobiles.

**1986 Forest Plan Direction:** The Chippewa and Superior NFs provide RMV opportunities. The 1986 Plans allow all-terrain vehicles (ATVs) and snowmobiles to travel cross-country (where there are no roads or trails) on the Superior but not on the Chippewa. There are many opportunities for snowmobile use on roads and trails on both Forests, however there are not as many opportunities for other RMV uses.

**Concerns:** People's concerns about motorized recreation within the two National Forests reach across the spectrum. Some people want RMV use greatly reduced, restricted to certain areas and designated trails, or eliminated. Other people want most of the two Forests to be open for motorized recreation use and to have the ability to travel cross-country. Some would also like new RMV trails built.

There is also concern about the environmental impacts of RMV use to riparian areas, wetlands, wildlife habitat, threatened or endangered species, soils and vegetations, and aquatic resources. Social concerns include noise, emissions, and use conflicts.

**Specific Issue:** There is debate about the level of recreational motor vehicle use that would provide an adequate range of recreational opportunities while not adversely affecting the environment. Forest Plan revision will determine the management direction for RMV use on roads and trails as well as in cross-country travel.

### Issue Indicators:

- New motorized trails for summer use (maximum miles of additional designated ATV trail)
- New motorized trails for winter use (maximum miles of additional designated snowmobile trail)
- Roads open for RMV use (descriptive)
- ATV and snowmobile cross-country travel opportunities (descriptive)

- Consistency among public land agencies (descriptive)

## Water Access

**1986 Forest Plan Direction:** The 1986 Forest Plans provide little direction in regard to the amount of and level of development for new water access sites.

**Concerns:** Some people prefer to have highly developed access to water, such as drive-down boat accesses and fishing piers. Other people prefer less-developed access (such as carry-down access) or none at all, in order to provide for solitude and to protect ecological values of lakes and rivers.

**Specific Issue:** There are different public opinions concerning the amount of water access development that should be provided by the Chippewa and Superior NFs. Forest Plan revision, taking ecological, social, and economic criteria into consideration, will establish management direction for the quantity and types of access to bodies of water.

### Issue Indicator:

- Water access facility level of development (low, moderate, high)

## 1.5.9 Economic and Social Sustainability

Forest Plan revision has raised concerns from American Indian tribes, the public, and other government agencies about potential impacts to lifestyles, traditions, and economic well being. Concerns about continued access to the Forest, protection of resources, economic and social opportunities the Forests may provide in the future have been commonly raised at scoping meetings, letters, and individual comments.

The importance and extent of social and economic impacts vary based on the perspective of the individual. Some people believe that the most important issue is the social and economic needs of

local communities. Others think that social and economic factors are less important than environmental concerns.

Long-time residents and others often have strong historical and emotional ties to the Forests. They want assurances that resources will be protected, but also that traditional uses will continue to be accommodated, that favored areas are protected, and that changes in management will not have an unacceptable impact on their lifestyles and customs both now and in the future.

Similarly, there are non-local parties concerned with how changes in management activities will affect their lives. Many of these parties may never actually visit the Chippewa and Superior NF but draw comfort and satisfaction from the knowledge that the Forests and resources exist. They want to assure as much as possible that these resources are maintained in a natural, unaltered state into the future. These individuals and groups are generally concerned about limiting the environmental effects of management activities and forest uses.

Additionally, many residents are concerned about what kind of impact changes in management will have on their economic well being. Communities and many individuals have economic ties with the natural resources of the Forests. Timber harvesting, tourism-related activities, gathering forest products, hunting and boating activities all contribute to local economies.

**Forest Service Responsibility:** Forest planning regulations direct that the overall goal of managing national forests is sustainability, key components of which are interdependent ecological, social, and economic factors that work together to allow goods and services to be produced without impairment to the long-term productivity of the land.

The Forests are also responsible to incorporate the treaty rights of American Indians in terms of retaining the right to hunt, fish, and gather resources on federal land through treaties with the federal government. The Forest Service must also maintain a governmental relationship with federally recognized tribal governments (Executive Order 13175, November 6, 2000).

## Economic Sustainability of Local Communities

The economic health and sustainability of communities within and around the Chippewa and Superior NFs depends, in part, on the use of resources such as timber, recreation, and/or specialty products such as boughs and birch bark.

**Concerns:** Many people are concerned that reducing or changing the mix of resources provided from the Forests could economically affect local communities. Similarly, they are concerned that if the Forests do not increase the amount of goods and services they provide, there may be negative impacts to the economic sustainability of the local communities in terms of growth and jobs that are foregone.

Other people believe that changes in resource emphasis on the two National Forests would not have significant effects on economic sustainability if local communities adjusted to take advantage of the different resources that were being emphasized. Some think that a high degree of long-term ecological sustainability, including species viability, a diversity of plant and animal life, and diversity of habitats, contributes to stability of local economics. Still others believe that if the Chippewa and Superior NFs produced little to no timber, local communities would benefit from increased revenue from recreation.

**Specific Issue:** Forest Plan decisions contribute to economic sustainability by providing for a range of uses, values, products, and services. At the same time, the Forest Plans must be ecologically sustainable. Forest Plan revision will determine the mix of uses, values, products, and services that the Chippewa and Superior NFs could provide over time.

### Issue Indicators:

- Employment and income by Forest Service program area
- Employment and income by major industry
- Cumulative Economic Impact (number of jobs, total income)
- Net Present Value
- Community Resilience
  - County diversity
  - Federal revenue and payments to counties

- County budgets – federal contributions

## Social Sustainability

Social sustainability addresses human life-style, cultures, attitudes, beliefs, values, demographics, land use patterns, and the ability of human communities to adapt to changing conditions.

People have a *sense of place* when they have a social or emotional connection with a specific place.

**Concerns:** Some people are concerned that changes in managing the Chippewa and Superior NFs may affect their sense of place on the Forests.

Some people are concerned with the potential impacts that forest management activities may have on the cultural and traditional uses of the land.

People also have concerns about the amount of access to the Forests and the location of that access to get to heritage and cultural sites and recreational opportunities. Some people would like more motorized access and would like the network of roads to be expanded. Others would like to see fewer roads.

Each local community has a unique character, and there is concern that management activities may not reflect the values important in local communities. Special consideration is needed to address interconnections between the Leech Lake tribal concerns and managing the Chippewa NF.

**Specific Issue:** Forest Plan decisions can affect the social conditions, expectations, and values of individuals, tribes, government agencies, surrounding communities, and organizations. Forest Plan revision may change management direction that could affect land allocations, management actions, uses, values, products, and services provided by the Chippewa and Superior National Forests. Changes to management direction may also affect heritage resources.

### Issue Indicators:

- Changes in key themes or characteristics of inventoried special places:
  - Scenic Integrity Objectives (acres)
  - Recreation Opportunity Spectrum (acres)

- Wildlife species management emphasis (acres)
- Changes in traditionally and culturally important areas:
  - Vegetation and wildlife species components that are traditionally or culturally important (acres)
  - Change in management areas allocation within traditionally and culturally important areas (qualitative)
- Changes in forest access:
  - Amount of road (miles by maintenance level)
  - Amount of road open for public use by maintenance level (miles)
- Community Social Factors: Variety of qualitative discussion on issues/concerns

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## 1.6 ISSUES NOT ADDRESSED IN DETAIL

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Although raised by the public, employees, or other agencies, some issues are not addressed in the EIS. Some topics or issues are beyond the scope of Forest Plan revision because they are related to laws, rights, and regulations; related to managing or using non-federal land or related to reserved or outstanding mineral estates; or to implementing projects or enforcing regulations. These topics may be best handled legislatively or by other agencies. Management direction for other issues is not in need of change in Forest Plans because current direction is sufficient.

### Managing the BWCAW

The 1986 Superior Forest Plan was amended in August 1993 to update management direction for the Boundary Waters Canoe Area Wilderness. Changes included newly defined management area goals and allocations within the BWCAW, new standards and guidelines, and a new monitoring plan.

The Forest Service prepared an environmental impact statement and solicited extensive public involvement in preparing this amendment. As a result, the Forest Plan revision process will not revisit this decision but will instead carry forward the 1993 Forest Plan amendment as management direction for the BWCAW.

### Planned Ignition for Prescribed Fire in the BWCAW

In the early stages of the Forest Plan revision process, concerns were raised about using prescribed fire in the BWCAW to meet ecological management objectives. However, the 1999 blowdown increased fuel loads on the Superior National Forest, especially in the BWCAW. In an environmental impact statement, the Forest Service analyzed in detail the effects of prescribed burning on the Wilderness and surrounding areas. The reason for the prescribed fire is to reduce the risk of wildfire exiting the Wilderness and threatening public safety, firefighter safety, and property.

For the next five to seven years, the focus of prescribed burning will be on the fuel reduction burns. These burns will provide information that the Forest Service can use to evaluate the use of prescribed fire for ecological reasons. In the future, a Forest Plan amendment may be considered to expand the use of prescribed fire in the BWCAW.

### Wild and Scenic River Recommendations

In 1988, both the Chippewa and Superior Forest Plans were amended to list rivers meeting eligibility criteria in the Wild and Scenic Rivers Act. On the Chippewa NF, the Big Fork River was listed as eligible. On the Superior NF, six rivers were listed (St. Louis, Brule,

Cloquet, Pigeon, Vermilion, Temperance). Management direction was also added to protect the eligibility of the listed rivers.

Studies to determine suitability (whether eligible rivers should actually be recommended for inclusion in the National Wild and Scenic Rivers System) will not be made during Forest Plan revision.

Over the past several years, local groups have formed river management organizations as a means of planning for river corridor management. The Forest Service has participated in these organizations.

The Vermilion River Management Plan and the Big Fork River Management Plan are examples of successful efforts at a local level, with the State's and National Forests' participation. The Chippewa and Superior NFs will continue to participate as active partners in these efforts.

## Special Uses

Commercial and private uses of the Chippewa and Superior NFs include recreational summer homes, resorts, special use roads, and utility corridors. The

issue related to these special uses is one of defining which uses are appropriate as well as how much use is appropriate on NFS land. While some objectives, standards, and guidelines may be updated, the overall approach and direction for special uses will generally remain the same as it is in the 1986 Forest Plans. There are standards and guidelines that may affect where, when, or how special use permits area issued. Revised Plans will carry forward the general direction relating to special uses in the 1986 Forest Plans.

## Minerals Management

The existing direction for managing federal mineral resources on the two National Forests has been working well. There may be minor changes to direction for managing minerals.

Further study on two parts of the minerals program will be done, specifically gravel supply and hardrock granite mining. If a change in Forest Plan direction is warranted, an amendment to the Plan will be prepared. Neither of these two minerals issues is expected to have a major impact on other resources.

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## 1.7 CHANGES BETWEEN DRAFT AND FINAL EIS

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Between Draft and Final EIS, the Regional Forester modified Alternative E and the IDT updated some information and refined some of the analysis. This section of Chapter 1 summarizes the major changes.

Based on analysis in the Draft and Final EISs and on comments from Tribal governments, public, and other governmental agencies (including consultation with the US Fish and Wildlife Service), the Regional Forester has modified Alternative E. Modified Alternative E serves as the basis for the revised Forest Plans, and the revised Plans and the Final EIS have been changed to reflect Modified Alternative E. The modifications do not change the overall theme of the original Alternative E.

Vegetative and ownership layers were updated for modified Alternative E. This update resulted in some

changes of acres in ownership, in forest type and age, in timber suitability, and in allocation by management area from the figures reported for Alternative E in the Draft EIS. Other changes to the EIS and Plans were made to increase clarity, update information, or respond to a public concern.

## Public Involvement

Nearly 1,300 public responses (letters, e-mails, faxes, public meetings, etc.) were received on the Draft EIS and Proposed Forest Plan. Many offered recommendations or requests for changes or improvements in the environmental analysis; some suggested modification in alternatives or new

alternatives; others suggested modifications to the goals, objectives, standards, or guidelines.

Public input received on the Draft EIS and Proposed Forest Plans also identified the need for several improvements to the analysis and presentation of materials in the Final EIS and Forest Plan. As a result, editorial discrepancies, minor inconsistencies, or gaps in the presentation of information in the Draft EIS have been corrected for the Final EIS.

## Changes to Alternative E - Management Areas (MAs)

The MA allocations were modified in Alternative E. Some of these changes are relatively minor and others are more substantial. Table 1-1 lists all of the changes in MA allocation in Alternative E. (See Chapter 2 for descriptions of the MAs and alternatives.) The rationale for changes in MA allocations are described in the Record of Decision.

Some of the names of the MAs changed between Draft and Final EIS, such as 'Potential Wilderness Areas' changed to 'Wilderness Study Areas'.

### Chippewa National Forest

On the Chippewa NF, the area allocated to the Unique Biological, Aquatic, Geological, or Historical Areas MA increased by 122% between Draft and Final EIS (about 9,900 acres). The Mississippi River Corridor was changed from Riparian Emphasis Area MA to the Unique Biological, Aquatic, Geological, or Historical Areas MA. Three areas that were allocated to Potential Research Natural Areas MA were also moved to the Unique Biological, Aquatic, Geological, or Historical Areas MA.

The Recreation Use in a Scenic Landscape MA increased by 60% (4,700 acres) between Draft and Final EIS. The Norway Beach Recreational Complex area was changed from a Unique Biological, Aquatic, Geological, or Historical Areas MA to a Recreation Use in a Scenic Landscape MA. Parts of the Cutfoot Souix area were also moved to a Recreation Use in a

**Table 1-1. Management Area Changes in Alternative E between Draft and Final EIS (total acres of National Forest System land within Management Area)**

Management Area	Chippewa NF		Superior NF	
	Draft EIS (Alt. E)	Final EIS (Mod. Alt. E)	Draft EIS (Alt. E)	Final EIS (Mod. Alt. E)
General Forest	353,925	347,319	651,931	640,443
General Forest - Longer Rotation	198,916	191,829	366,037	415,478
Recreation Use in a Scenic Landscape	7,790	12,469	235,549	155,412
Eligible Scenic Rivers	1,537	1,537	NA	NA
Eligible Wild, Scenic, and Recreational River	NA	NA	27,478	31,834
Semi-primitive Motorized Recreation	0	0	69,152	69,018
Semi-primitive Non-motorized Recreation	12,364	21,937	3,493	4,559
Unique Biological, Aquatic Geological, or Historical Areas	8,105	18,026	NA	NA
Unique Biological Areas	NA	NA	514	2,578
Riparian Emphasis Areas	61,094	52,883	18,446	17,444
Experimental Forest	8,184	8,184	0	0
Research Natural Areas (existing)	2,140	2,140	3,172	3,184
Potential Research Natural Areas	3,951	1,699	18,000	19,448
Pristine Wilderness	0	0	115,106	113,700
Primitive Wilderness	0	0	301,870	299,760
Semi-primitive Non-motorized Wilderness	0	0	326,619	345,233
Semi-primitive Motorized Wilderness	0	0	70,567	51,916
<b>Total*</b>	658,006	658,023	2,207,934	2,170,007

\* Totals do not exactly match due to rounding and update of data layers between Draft EIS and Final EIS.

## Scenic Landscape MA allocation.

The Semi-primitive Non-motorized MA increased by 77% (9,500 acres) because additional acres were converted from the General Forest MA to the Semi-primitive Non-motorized MA.

The Potential Research Natural Areas MA was decreased by 58% (2,300 acres). The Winter Area was changed from Potential Research Natural Area MA to Riparian Emphasis Area MA. Even though there was an overall decrease to the Potential Research Natural Areas MA, Ottertail and Pimushe Lake areas were added to this MA.

The Riparian Emphasis Area MA decreased by 13% (8,100 acres) due to the Mississippi Corridor moving to the Unique Biological, Aquatic, Geological, or Historical Areas MA.

## Superior National Forest

The General Forest – Longer Rotation MA increased by 19% (70,768 acres) between Draft and Final EIS. The Isabella Pines area along Minnesota Highway 1 was taken out of the Recreation Use in a Scenic Landscape MA and was added to the General Forest – Longer Rotation MA.

Overall, the Recreation Use in a Scenic Landscape MA decreased by 32% (75,530 acres); however, the Wood Lake area in the Fernberg Corridor was changed from a Semi-primitive non-motorized MA to Recreation Use in a Scenic Landscape MA.

The Unique Biological Areas MA was increased by 387% (1,982 acres). Three areas were added to Unique Biological Areas MAs.

The Eligible Wild, Scenic, and Recreational Rivers MA increased by 18% (4,852 acres) because of mapping errors in the Draft EIS. Draft EIS maps calculated land acres from the centerline of rivers, which inadvertently included water acres. The Final EIS maps include land acres one-quarter mile on each side of river corridors.

The Semi-primitive Non-motorized MA was expanded by 31% (1,068 acres) mostly because approximately 1,000 acres were added in the Cucumber Lake-Vegetable Lake Chain area.

## Other Changes to the EIS

### Social and Economic Analysis

Economic information was changed, specifically IMPLAN output, in terms of jobs and income by alternative because of changes in timber volumes. These changes also reflect new recreation visitor-use data. Changes to the social descriptions are due to modifications in forest composition and age.

### Watershed Analysis

The affected environment discussion for watershed management was expanded to address lakes and streams identified as “impaired” per Federal Clean Water Act Section 303(d) requirements. The discussion of watershed/riparian cumulative effects was also expanded. Data used in the analysis for Riparian Indicator #4 was substantially revised to address an analysis error that occurred in producing the Draft EIS.

## Forest Plan Direction

### Timber

The allowable sale quantity of timber increased for both the Chippewa and Superior National Forests. The number of acres treated for vegetation management also increased. The percentage of clearcutting was reduced on the Chippewa National Forest.

### Tribal Concerns

Both the EIS and Plans were changed to reflect comments from the Tribes. Information was added to the EIS and Plans in the form of narratives, maps, and desired conditions and objectives.

### Wildlife and Vegetation

Key modifications in the Revised Forest Plans include:

- Changes to short term vegetation composition and age objectives, including an increased emphasis on restoration of pine forest types. Changes vary by forest type and age grouping but retain Modified E’s objectives in relation to the other alternatives.

- Changes to outcomes for vegetation spatial patterns.
- Clarification of objectives, standards and guidelines for all resources, including threatened and endangered species.

Appendix E was added to the Plans to provide information related to Canada lynx management, including the basis of Forest Plan direction for lynx recovery, Endangered Species Act Section 7 Conferencing and Consultation and Coordination with Fish and Wildlife Service, how Forest Plan lynx conservation approach will be adapted or updated during implementation, information on Lynx Analysis Units, recommended procedures from the Lynx Conservation Assessment and Strategy, and definitions and descriptions of lynx habitat.

Working with a spatial model in conjunction with forest composition and age objectives showed what can be realistically achieved among multiple coarse filter objectives. Superior National Forest spatial objectives were amended based, in part, on this work. Chippewa National Forest objectives were validated.

## Recreation

Information was added in Appendix B of the Plans to explain the recreation opportunity class spectrum and scenic class inventory processes. A list of roads and trails with special designations was also included in Appendix B.

The Forest's Recreation Opportunity Spectrum maps were changed based on the changes to MAs in Modified Alternative E. Some minor mapping mistakes were also corrected.

Terminology and clarifications were made in the Eligible Wild, Scenic, and Recreation River MA direction.

Appendix C of the EIS includes the evaluation for Superior National Forest Roadless Area Inventory and maps for both Forest Roadless Area Inventories.

Direction for recreation motor vehicles (RMVs) includes some clarifications as well as changes, such as prohibiting all cross-country off-highway vehicle travel on the Superior National Forest and prohibiting all cross country RMV (includes snowmobiles) travel

and RMV use of unclassified roads on the Chippewa National Forest.

## Scenic

The Superior National Forest's Scenic Inventory map and the Scenic Integrity Objectives map were modified based on employee and public comment. Some areas, such as along ski trails, were changed to higher scenic classes and some roads and snowmobile trails were changed to lower scenic classes.

## Boundary Waters Canoe Area Wilderness

No decisions were made that affected current management of the BWCAW. However, technical corrections were made to Management Area maps for two reasons.

1. The Alternatives Map in the Draft EIS (Figure 2-3) did not accurately depict the Pristine BWCAW MAs. The map of Modified Alternative E and associated MA acres have been updated to depict the actual boundaries the Superior NF has been using to manage the Pristine BWCAW MAs.

2. Two different pieces of legislation created motor restrictions on three lakes. Pursuant to the 1978 BWCAW Act, a portion of Seagull Lake became non-motorized on January 1, 1999. Section 1212, 105-178 of the 1998 Transportation Equity Act amended the 1978 BWCAW Act and removed Canoe and Alder Lakes in Cook County from the list of lakes where motorized use is allowed. The areas have been managed as non-motorized per the legislation. Maps were updated at this time to reflect the legislative direction

## Watershed and Soil

Guidance for conducting management activities on specific terrestrial ecological inventory mapping units (Ecological Landtypes on the Superior NF and Landtypes on the Chippewa NF) has been clarified and reformatted for easier comprehension and use.

## Role of Fire

Stand replacement fire (fire used to kill an entire stand of trees) will generally not be used as a management tool in areas of the Forests classified as suitable for



timber harvest.

Management direction has been added to the Forest Plan to for the maintenance of old growth characteristics when conducting projects covered under the Health Forest Restoration Act in old growth stands and priority areas for fuel reduction have been identified based on fire regime and condition class.

## **Monitoring**

Strategic monitoring direction in Plan Chapter 4 of the Plans have been expanded beyond the Forest Planning Regulations requirements to address a broader range of desired conditions and objectives specified in the revised Plans.

## **Maps**

In response to public comments, purchase unit boundaries were added to the maps of the Superior NF. Reservation boundaries were added to appropriate maps of the Chippewa and Superior NFs..

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